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Division of Water Resources

FEMA

wood.

Linn County

Floodplain Mapping Project
Data Development Kickoff Meeting

July 22, 2021

While we are waiting, please enter your name and community in the chat box!

Your engagement in this process is important to the success of this project, so thank you for taking the time to be here today!

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Introductions

Kansas Department of Agriculture

Tara Lanzrath, CFM
Floodplain Mapping Coordinator

Steve Samuelson, CFM
State NFIP Coordinator

Cheyenne Sun Eagle
NFIP Specialist

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Floodplain Mapping Specialist

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Floodplain Mapping Specialist

FEMA – Region VII

Andy Megrail
Regional Project Officer

Wood Environment & Infrastructure Solutions

Joe File, PE, CFM
Senior Associate / Program Manager

Maria Neeland, PE, CFM
Engineer

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Today's Goals

- *Share details on the mapping project*
- *Get initial feedback on modeling methods*
- *Review future steps*

Background

Background

- Osage Custom Watershed BLE Project
  - *Kick-off Meeting and BLE Review: October 22, 2019*
  - *Discovery Meeting: February 5, 2020*

Background

- Linn County Effective Mapping is dated November 2007.

- Through Discovery and conversations with County stakeholders, it was determined that updated modeling and mapping would benefit Linn County.

Review of the Work Ahead and How We Propose Doing It

Linn County 2020 Mapping Updates

Scoped Studies

New Zone A - Excess Rainfall on Grid

New Zone A studies will be developed for these streams using 2D "excess rainfall-on-grid" hydrology and 2D Hec-Ras hydraulics.

New Zone A - Gage Analysis

New Zone A studies will be developed for these streams using 2D "excess rainfall-on-grid" hydrology calibrated to Gage Analysis Flows, and 2D Hec-Ras hydraulics.

New Enhanced Zone A - Excess Rainfall on Grid

New Enhanced Zone A studies will be developed for these streams using 2D "excess rainfall-on-grid" hydrology and 2D Hec-Ras hydraulics. Field measured structure data will be incorporated into the modeling.

New Enhanced Zone A- Gage Analysis

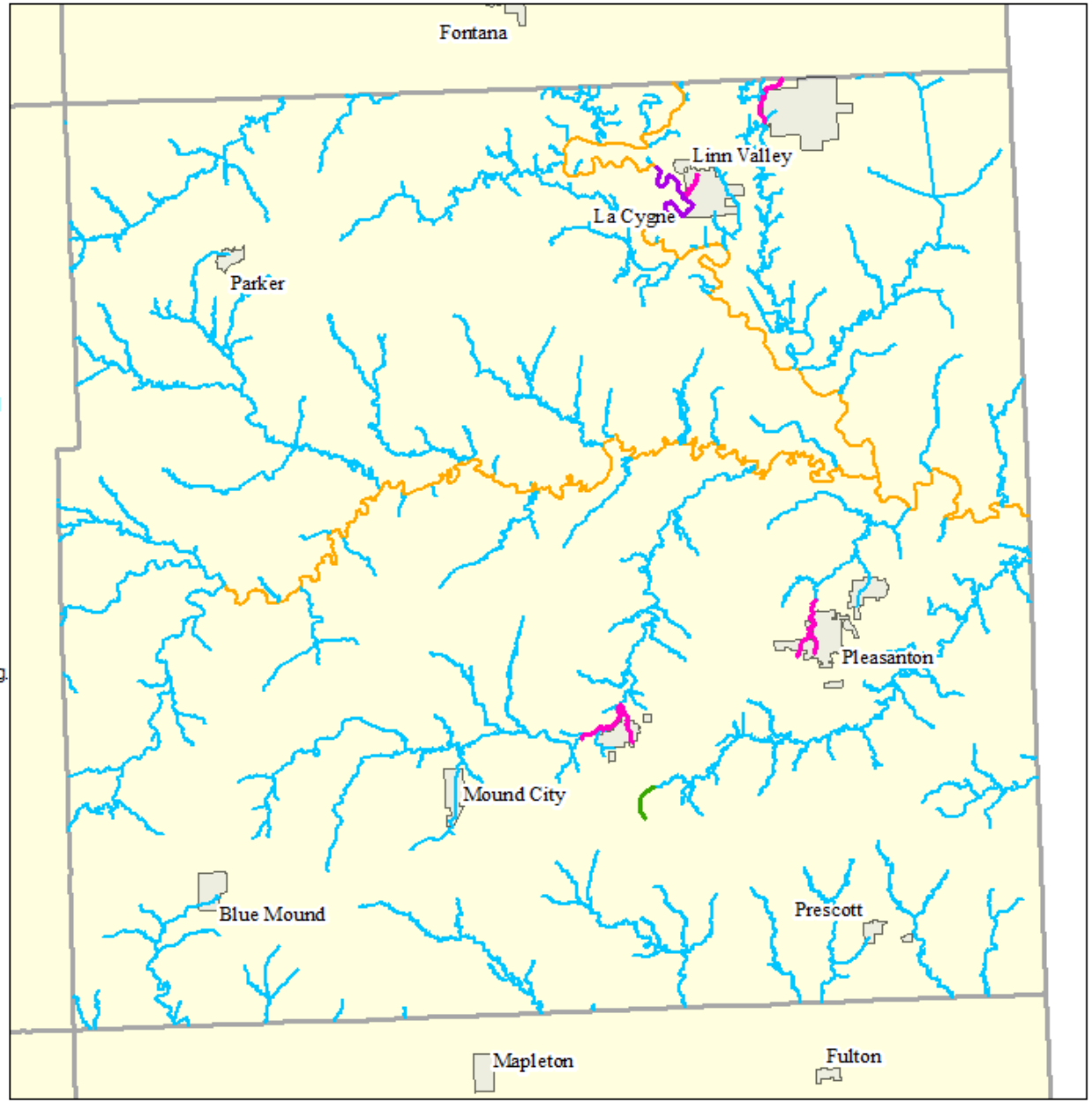
New Enhanced Zone A studies will be developed for these streams using 2D "excess rainfall-on-grid" hydrology calibrated to Gage Analysis Flows, and 2D Hec-Ras hydraulics. Field measured structure data will be incorporated into the modeling.

New Static Zone AE

New Static Zone AE studies will be developed for these streams using rainfall-runoff modeling. Field measured structure data will be incorporated into the modeling.

N

0 2.5 5 10 Miles



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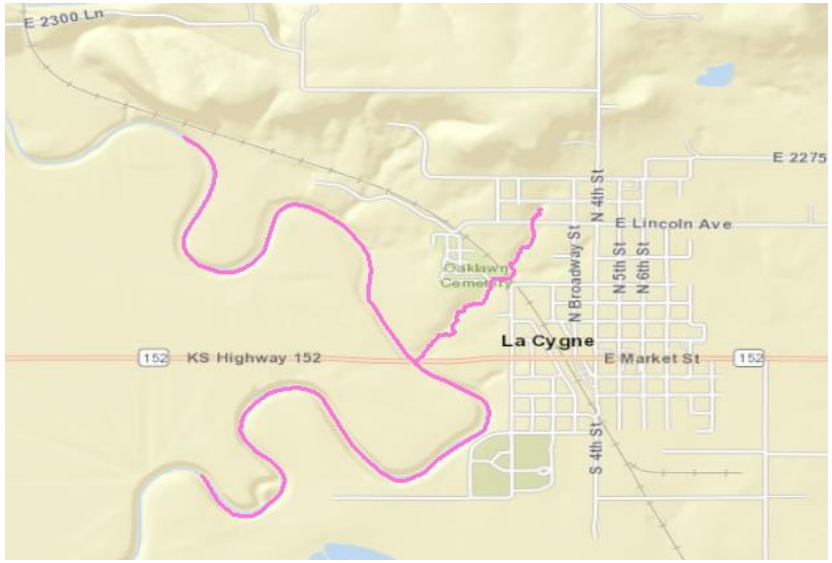
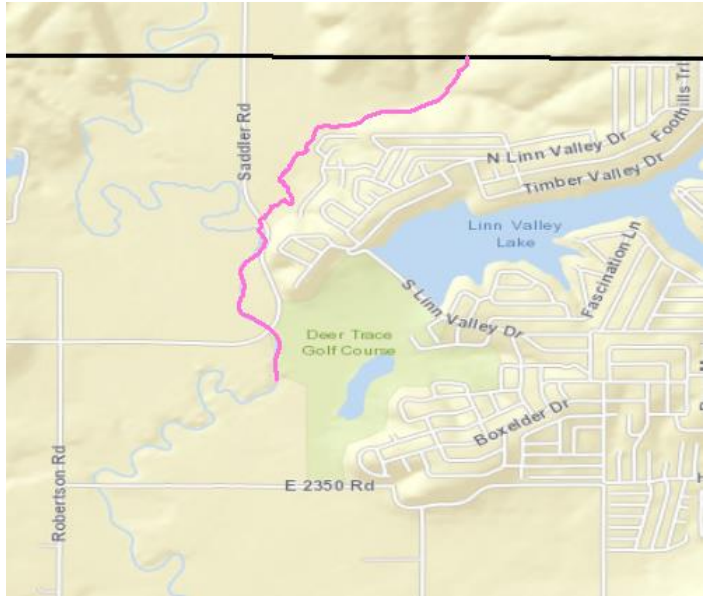
New Enhanced Zone A

- La Cygne:
  - Marais des Cygnes River and 1 Tributary
- Linn Valley:
  - 1 Tributary to Middle Creek





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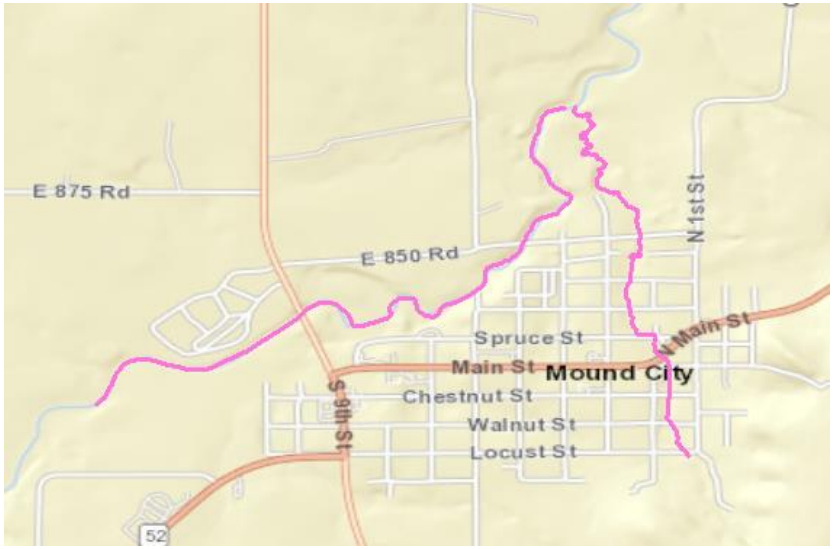
New Enhanced Zone A

- Mound City:
  - Little Sugar Creek and 1 Tributary
- Pleasanton:
  - Muddy Creek and 1 Tributary



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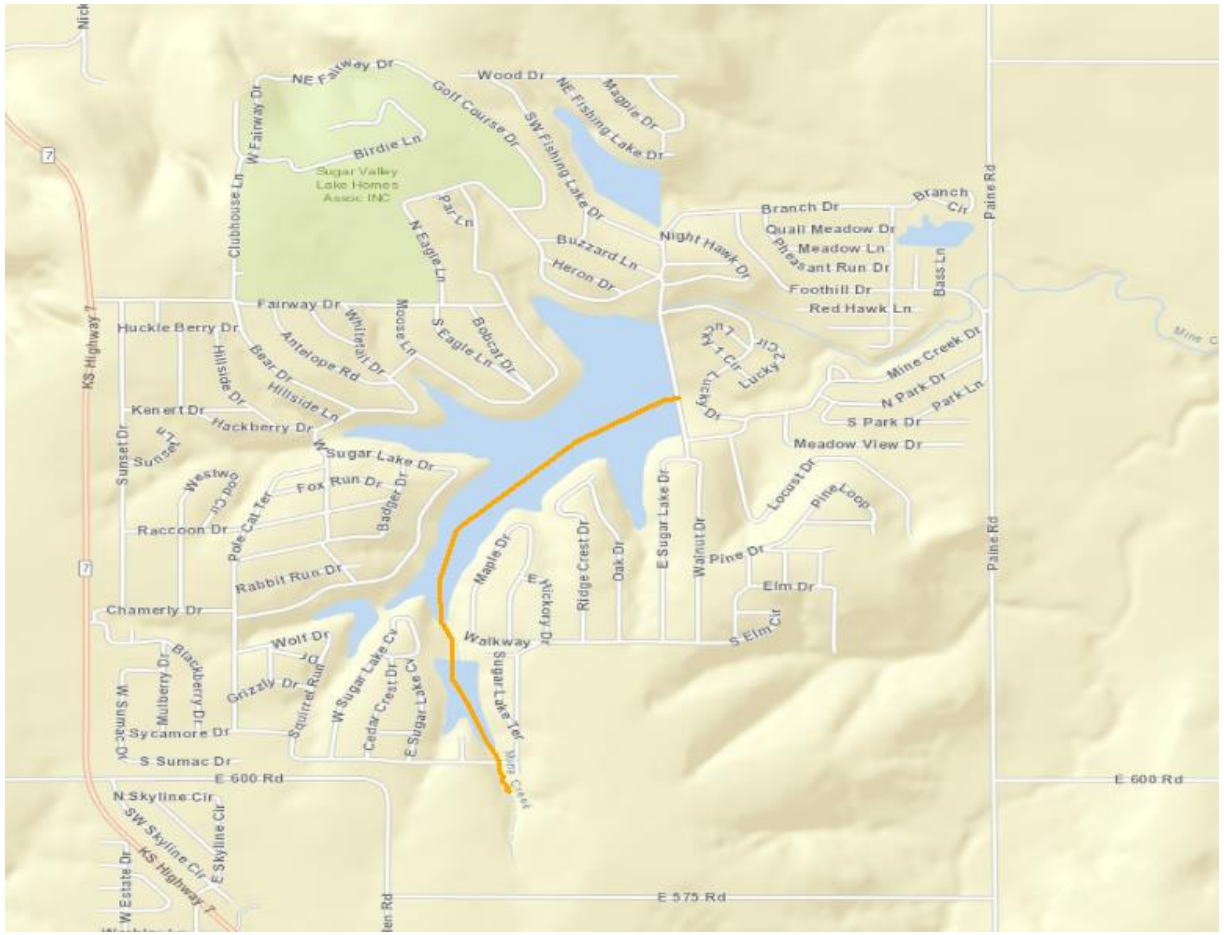
Static AE

- Lake South of Mound City on Mine Creek



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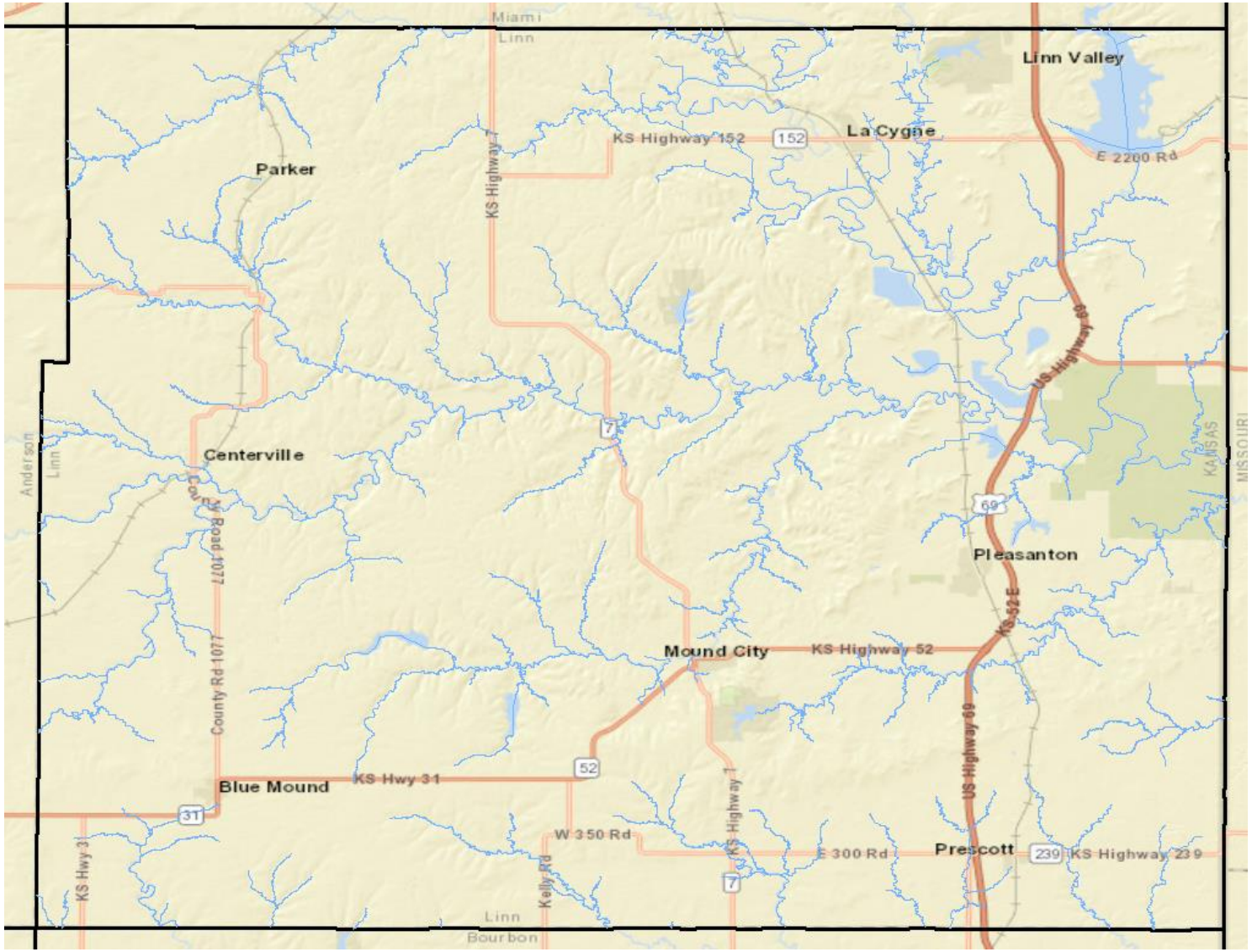
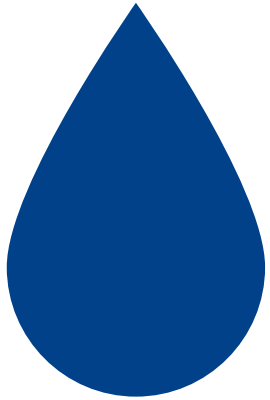
New Zone A

- Remainder of Streams in the County



Definitions



Hydrology

How Much Water?

Hydraulics

How High Will Water Get?

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2D Hydraulic Modeling will be used for all the streams in this study

- Enhancements will be made to the BLE modeling that was performed for the Zone A and Static AE streams.
  - Comments made and additional information gathered during the Discovery phase will be used to enhance the modeling
  - Enhanced Zone A and Static AE streams will include field measured data for culverts and bridges
- The hydrology is built into the RAS modeling platform using excess rainfall-on-grid methodology.
  - This will be calibrated to gage analysis flows

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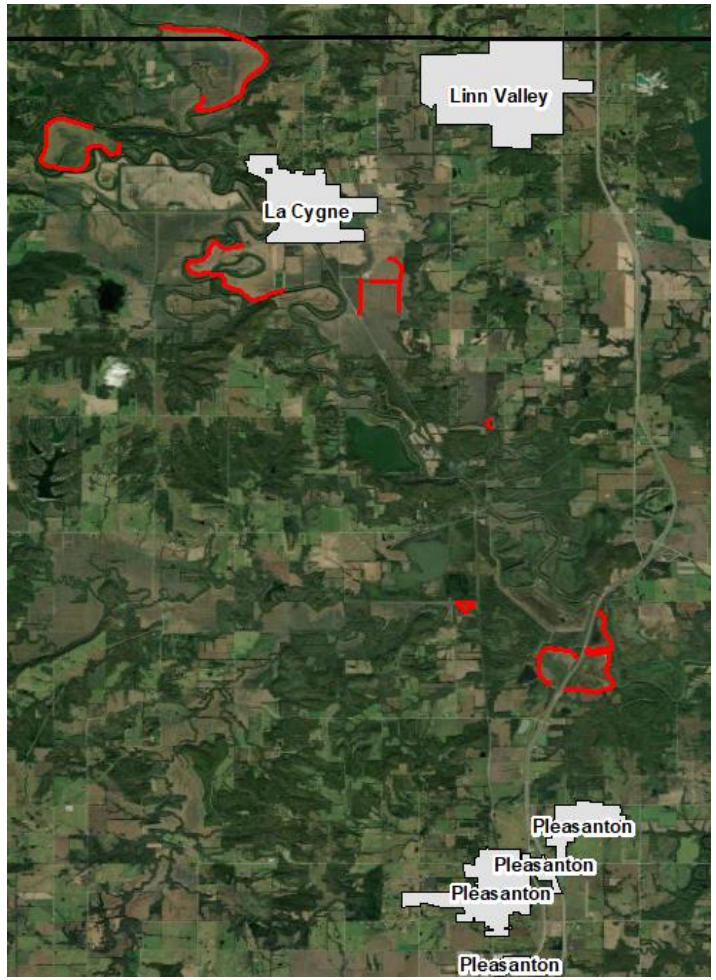
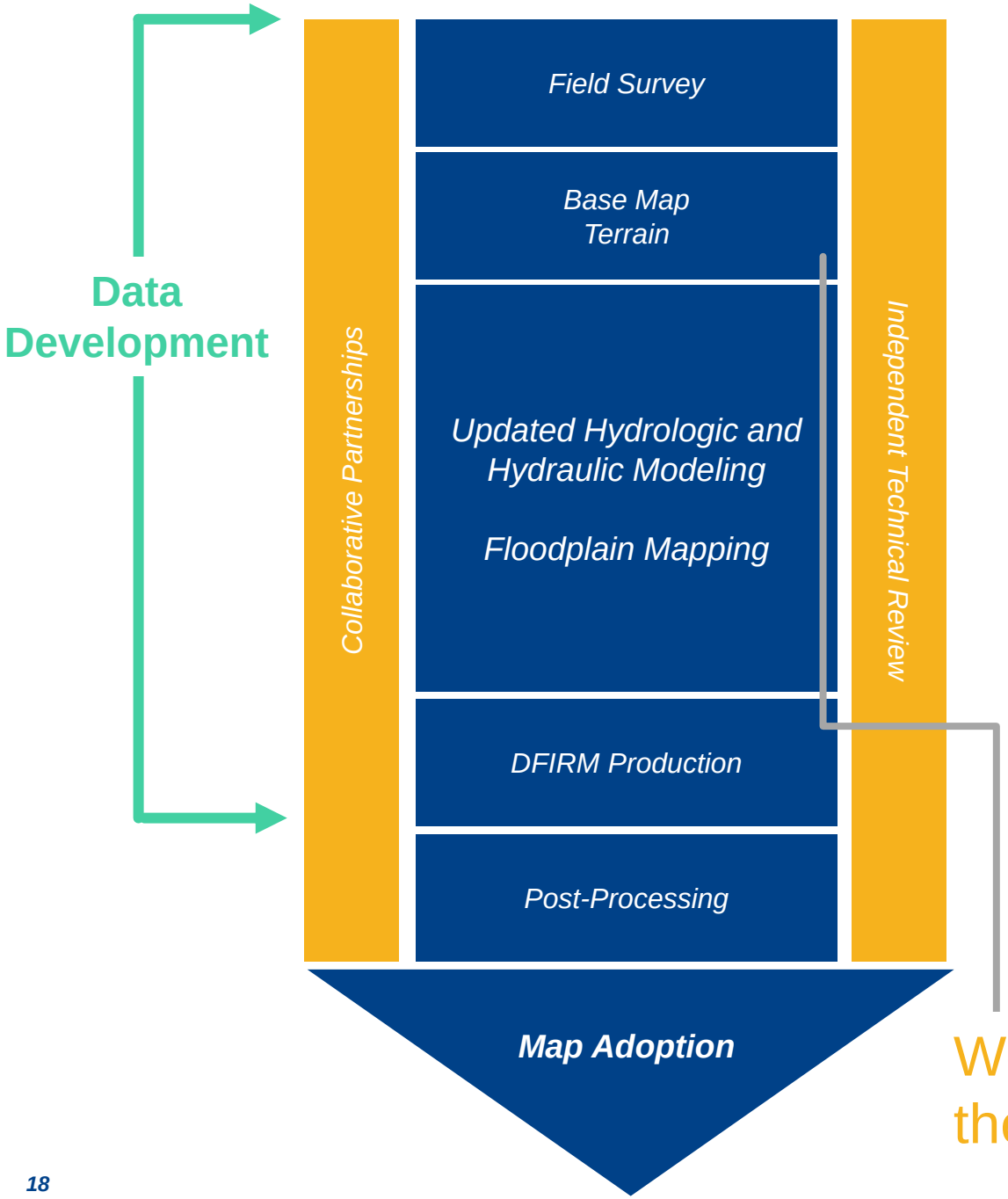
Non-Accredited Levees

- There is 11 Non-Accredited Ag Levees in the County
- These levees are overtopped for the 1% annual chance storm and are considered hydraulically insignificant. They are mapped as overtopping.



Next Steps



Project Tasks

1. Field Survey
2. Base Map and Topography Preparation
3. Hydrologic and Hydraulic Modeling
4. Floodplain Mapping
5. DFIRM and FIS Production
6. Post-Preliminary

We are about to begin the modeling task

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Our Next Steps:

- We will complete the engineering analysis previously described
- We will develop your draft regulatory floodplain maps.
  - Also known as your Flood Insurance Rate Map (FIRM)
- We will develop your draft Flood Insurance Study (FIS).
- We will have a community review period and a public review period

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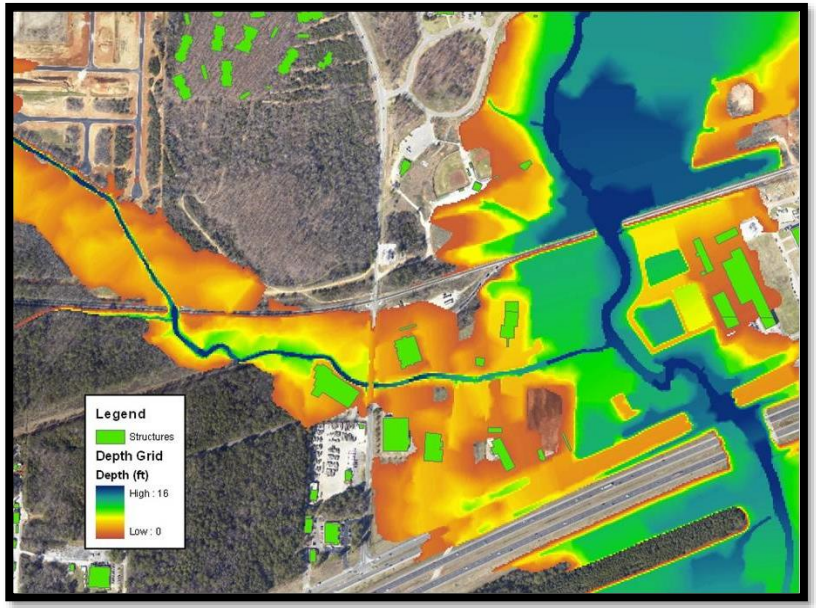
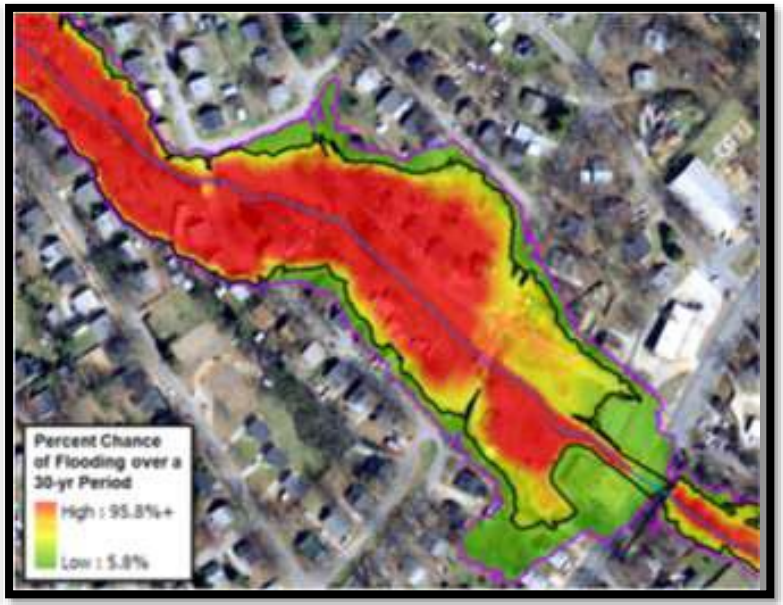
Our Next Steps:

- We will also be developing flood risk products for all of Linn County as part of this project.
  - Will use the latest data available for all streams





Project Timeline

Kick-off Meeting and Initial Community Feedback:
[TODAY!]

Data Development Work:
[Now until fall 2021]

- *Base Map*
- *Topographic Data*
- *Field Survey*
- *Develop Hydrologic and Hydraulic Models*
- *Floodplain Mapping*

Flood Risk Review Meeting:

[~November 2021]

- *Your **review** and **feedback** on the draft maps*

Project Timeline, continued

Community **comments** will be **addressed**

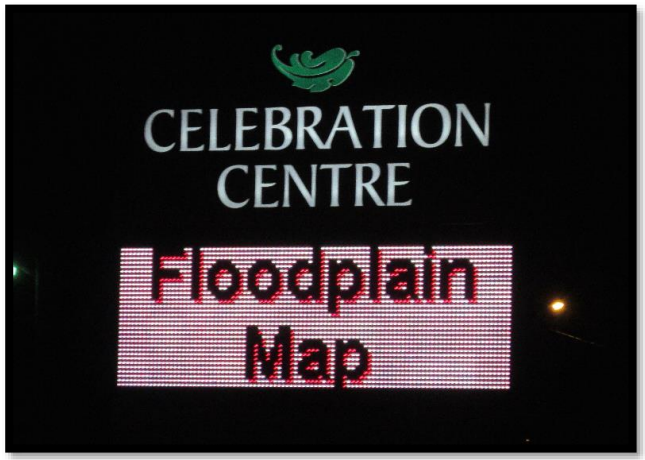
Public review of the draft maps

- *Includes Public Open House*

Preliminary Map Products

- *Preliminary DFIRM Community Coordination Meeting*

Post-Preliminary Processing



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Key Takeaways

Floodplain Mapping Projects take time

Your involvement in this process will result in better flood information for your community

DON'T HESITATE TO CALL, WE ARE HERE TO HELP

Resources

Online Project Information

Project Website

- Scoping Maps, Project Timeline, Meeting Presentations, Newsletters, Technical Reports, Web Review Map
- https://www.agriculture.ks.gov/divisions-programs/dwr/floodplain/mapping/mapping-projects/lists/mapping-projects/

Web Review Map

- Provide comments on areas impacted by past floods, community needs, etc.
- Review of floodplain data

Story Maps

- Project Info
- “Floodplain Current”: Mapping Process ‘Nuts and Bolts’


Any Questions?